

Honors Alg. 2 Midterm Review Answer Key

① 6

② -36

③ $3x^3 - 19x^2 + 52x$

④ $\{4\}$

⑤ $g = \frac{-2(s-vt)}{t^2}$

⑥ $g = 32$

⑦ $b = \frac{A}{2ng + 4r}$

⑧ $N > 0$ or $(0, \infty)$

⑨ additive inverse = $-\frac{4}{5}$
mult. inv. = $\frac{5}{4}$

⑩ add. inv. = 6
mult. inv. = $-\frac{1}{6}$

⑪ $\{x: -3 \leq x \leq 2\}$ or $[-3, 2]$

⑫ $\{M: M < -1 \text{ or } M > 6\}, (-\infty, -1) \cup (6, \infty)$

⑬ 13, 15, 17

⑭ yes

⑮ $D = \text{all reals except } x \neq 2$
 $(-\infty, 2) \cup (2, \infty)$
 $R = \text{all reals except } f(x) \neq 0$
 $(-\infty, 0) \cup (0, \infty)$

⑯ $D = -1 \leq x \leq 1$
 $[-1, 1]$

$R = 0 \leq y \leq 1$
 $[0, 1]$

⑰ $g(-3) = 8, g(7) = 48$

⑱ a) $y = -\frac{5}{4}x - \frac{1}{2}$

b) $m = -\frac{5}{4}$

c) $m = \frac{4}{5}$

19) a) $4x + y = 5$
b) $x + 3y = -3$

20) a) $(-1, 2)$
b) $(1, -2)$
c) $(2, -1)$

21) -47

22) $K = -3$

23) $\begin{bmatrix} 8 & -11 \\ 22 & 12 \end{bmatrix}$

24) $A^{-1} = \frac{1}{34} \begin{bmatrix} 7 & 3 \\ -2 & 4 \end{bmatrix}$

25) 10

26) $(4, 0, -4)$

27) 34 units^2

28) 56 and 74

29) rate of boat = 4 mph
rate of current = 2 mph

30) Corner Points
 $(0, 5)$ $(3, 2)$ $(0, 0)$, $(3, 0)$
 $\max = 10$ $\min = 0$

31) $\frac{D^3}{4a}$

32) 5^{2N-8}

33) $4x^0 = 4$

34) $x^3 - 5x^2 + 11x - 22 + \frac{39}{x+2}$

35) $(x-4)(2x+5)$

36) $(2x-3)(4x^2+6x+9)$

37) $(4ab+7)(4ab-7)$

38) $(4x-9y)(x+2y)$

39) $(4x-3)(2y-3)$

40) $3(x^2+4y^2)(x+2y)(x-2y)$

$$(41) 4x^2y^2\sqrt{3y}$$

$$(42) 3ab^2\sqrt[3]{2a^2}$$

$$(43) \frac{\sqrt{15x}}{5x}$$

$$(44) 11\sqrt{3} - 10\sqrt{2}$$

$$(45) -3$$

$$(46) \frac{15+5\sqrt{3}}{6}$$

$$(47) \{26\}$$

$$(48) x^{7/10}$$

$$(49) 4i\sqrt{2}$$

$$(50) -4\sqrt{3}$$

$$(51) 6ab^2i\sqrt{a}$$

$$(52) -16$$

$$(53) \frac{-13+11i}{29}$$

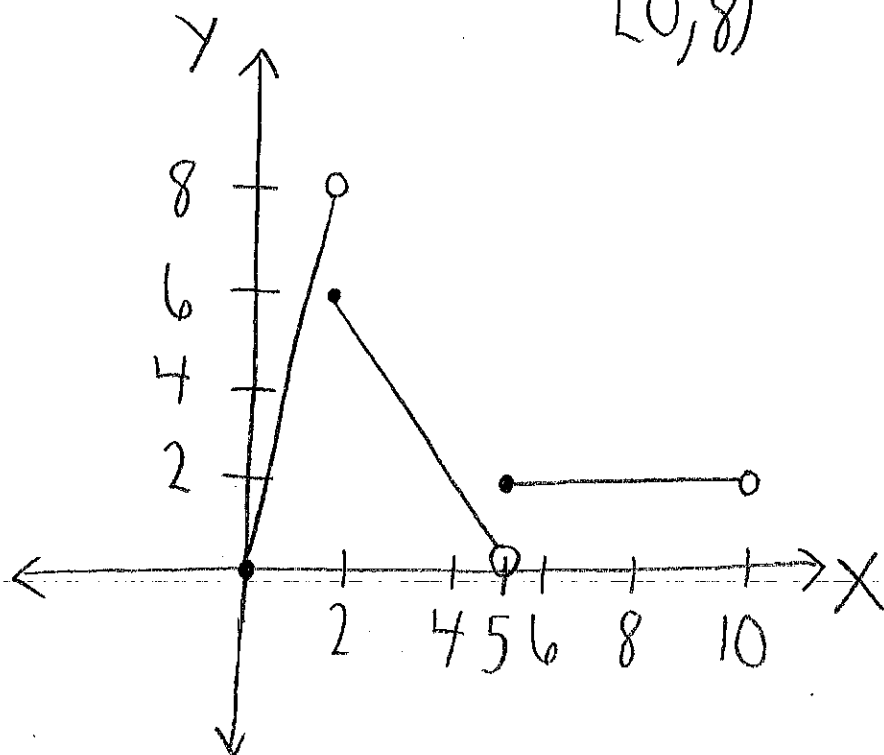
$$(54) \{\pm 5i\}$$

$$(55) D = 0 \leq x < 10$$

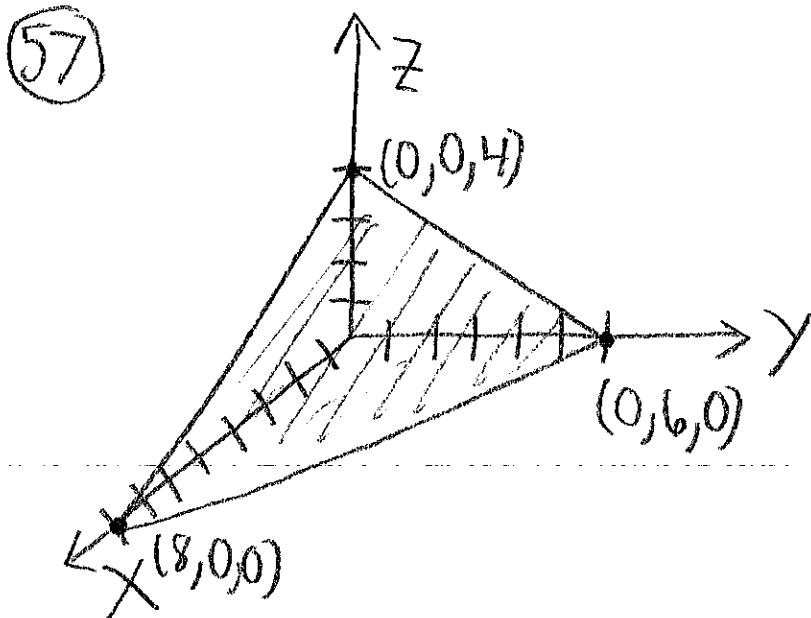
$$[0, 10)$$

$$R = 0 \leq f(x) < 8$$

$$[0, 8)$$



- 56 $A(0,0,0)$
 $C(-6,4,0)$
 $D(-6,0,0)$
 $E(-6,0,-3)$
 $F(0,4,-3)$
 $G(0,4,0)$
 $H(0,0,-3)$



- 58 $20N, 12D, 6Q$

HONORS ALGEBRA 2 MIDTERM REVIEW

The following problems are review problems from your textbook that you can do for extra practice. Make sure to check your answers in the back of the textbook. The answers are provided for any even problems. **These problems, along with your midterm review packet, should give you a good review for the midterm exam. Good luck!!**

Chapter 1: Solving Equations and Inequalities

p. 15 # 21, 23, 29 – 33 odd

p. 49-50 # 33, 49, 51

Chapter 2: Linear Equations, Functions, and Linear Inequalities

p. 94 # 41 (piecewise function) + p. 102-104 # 26, 37, 39, 47, 49

$$26) \text{ answer is slope} = \frac{5}{6}$$

Chapter 3: Systems of Equations and Inequalities

p. 125 # 5 + p. 132 # 17 + p. 133 # 21 (look over linear programming) + p. 147-148 # 23, 27

Chapter 4: Matrices

p. 172 # 23 + p. 186 # 15, 27, 29 + p. 199 # 23, 25 + p. 211-213 # 20, 27, 35

$$20) \text{ answer} = \begin{bmatrix} 13 & -9 \\ 13 & -23 \end{bmatrix}$$

Chapter 5: Polynomials, Factoring Polynomials, Radicals

p. 226-227 # 19, 33 + p. 242-243 # 9, 25, 27, 33, 35, 36, 37

$$36) \text{ answer } (t-2)(t^2+2t+4)$$

p. 254 # 17, 19, 27, 29, 35, 39, 43 + p. 277-280 # 25, 27, 31, 45, 52, 61, 69, 71, 75

$$52) \text{ answer} = \frac{1}{9}$$